DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Schaar et al ("Fully Scalable 3D Overcomplete Wavelet Video Coding using Adaptive

Motion", ISO/IEC JTC1/SC29/WG11, Shanghai, October 2002) in view of Haskell et al

(US 5742343 A).

Referring to claim 7:

Schaar et al disclose a method (see Fig. 3) for compressing an input stream of

video frames by compressing enhancement layer video data associated with the input

stream using motion compensated temporal filtering (MCTF) in an overcomplete

wavelet (OW) domain to generate compressed enhancement layer video data suitable

for over the network (106).   See Abstract (page 1), section 3 (pages 3-4), and the

Conclusion (page 7).

Schaar et al do not however address the step of compressing base layer video

data associated with the input stream using motion compensated discrete cosine

transform (MC-DCT) coding to generate compressed base layer video data suitable for

transmission over a network. However, such a step is well known in the prior art. For

example, Haskell et al disclose this type of step. See col. 9, line 18 to col. 10, line 21.

It would have been obvious to one of ordinary skill in the art to have combined

the teachings in Schaar et al and Haskell et al in order to arrive at a technique for

scalable coding of high resolution video signals whereby a base layer and enhancement

layer of coding are combined to form a new encoded video signal allowing compatibility

with a wide range of data rates for transmission and video quality in terms of resolution

and frame rate.

Referring to claim 8:

Haskell et al further disclose compressing the base layer video data and Schaar

et al further disclose compressing the enhancement layer video data by generating one

or more motion vectors. See MV discussion in Schaar et al and col. 9, lines 37-52, in

Haskell et al). Schaar et al further disclose transforming each of the video frames into a

plurality of video bands, generating one or more overcomplete wavelet expansions,

wherein compressing the enhancement layer video data comprises compressing the

enhancement layer video data using the one or more overcomplete wavelet expansions,

encoding the video bands after the motion compensated temporal filtering, encoding the

motion vectors, and multiplexing the encoded video bands and the encoded motion

vectors onto an output bitstream. See OW, MCTF, and coding discussion in Schaar et

al and note the combination to form final bitstream in Fig. 3. In Haskell et al, the

multiplexing of the base layer and enhancement layer encoded bitstreams is disclosed

(col. 9, lines 16-21 and 45-49), so it follows in the combination with Schaar et al that the

bitstream would be multiplexed.

Referring to claims 1-3, 11-12, and 15-16:

These claims are the video encoder, transmitter, and computer program product

that correspond directly to the video encoding method discussed above, and therefore

would be obvious for implementation of the method.

Referring to claims 4-6, 9-10, 13-14, and 17-18:

These claims are the video decoder, decoding method, video receiver, and

computer program product for decompressing the encoded video bitstream produced in

the video encoding method discussed above. Inverse decoding of such encoded video

data is well known to provide. Haskell et al disclose such a decoding scheme (see

discussion of Fig. 26 for example). It would have been obvious to provide such inverse

decoding in order to recover the original video signal.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 19 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 19 defines a transmittable video signal which is non-statutory subject matter.

Cited Art

The art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott A Rogers whose telephone number is 571-272-7467. The examiner can normally be reached Monday through Friday 8:00am-5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Coles can be reached at 571-272-7402.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC2600 Customer Service at 571-272-2600. Official correspondence by facsimile should be sent to 571-273-8300. The USPTO Customer Service Center phone number is 800-PTO(786)-9199 or 571-272-1000.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Scott A Rogers/
Primary Examiner, Art Unit 2625
5 June 2010